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Photograph by J. Perestrello

"DRAGON'S BLOOD" FROM TREES WENT INTO MUMMIES AND TOOTH POWDER

The Canary Islands dragon tree may be a survival of Africa's Ice Age forests. Specimens have lived to ages estimated between 3,000 and 6,000 years. Related to lilies, their hollow trunks have no annual growth rings. Their odorless dried resin, called dragon's blood for its color, served ancient islanders to mummify their dead, serves modern commerce in varnish and some kinds of tooth powder (Bulletin No. 4).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Libia's Colonizing Projects Threatened by War

THE advance of British forces from Egypt into one after the other of Italy's strongholds of eastern Libia has brought an economic as well as a military crisis to the "desert colony" of Italian Africa.

Geographically, Libia occupies a strategic position between French-owned Algeria and Tunisia on the west and British-influenced Egypt on the east, a little off center on the Mediterranean's southern stretch from Gibraltar to the Suez Canal. The colony lies conveniently close to Italy proper, across the narrow waistline of the sea. It is less than 300 miles away from the Italian island of Sicily. Even this short lifeline, however, between the mother country and the North African colony has been menaced by the British Navy.

Volunteer Colonists Selected by Strict Regulations

Libia, more than twice as big as Texas, is roughly seven times the size of the Italian peninsula. Yet it has a population only about one-fiftieth as large as Italy's. A vast, open territory, next door to the motherland, it has therefore presented a partial solution to Italy's problem of fast-multiplying millions.

The planned colonization of Libia was first instituted on a large scale in 1938, when some 20,000 peasants sailed from Italy to make their homes in the new African world. Under the late Marshal Balbo, Libia's Governor General, the colonists disembarked at Tripoli and Bengasi, respective capitals of the two sections of Libia: Tripolitania and Cirenaica.

They included nearly 2,000 pioneering families, carefully selected from other thousands of land-hungry applicants. Requirements for the "legion of labor" were farming experience, physical sturdiness and good health, large families, and political loyalty. With the boatloads of immigrants went official leaders and guides, doctors and nurses, agricultural experts, and priests.

The far-reaching and long-term projects of Italy for Libian settlement have been compared with those of the early Greeks, who, in fact, similarly colonized Cirenaica in eastern Libia more than 2,500 years ago. Unlike the roving Phoenicians, who set up coastal trading stations in Tripolitania, or western Libia, the Greeks developed a number of inland regions. These not only served as homes for surplus population and as outposts of empire, but also as sources of food.

Once More Planned as "Granary of Rome"

Among other exports was the famous—now extinct—herb known as silphium. Sold as a medicine which would cure all ills, the drug from this plant made fortunes for Greek rulers of Cirenaica till the colony fell under Roman domination. Then, rather than pay the heavy taxes which Rome imposed, silphium producers are believed to have destroyed all of the growing plants.

Libia, once the "bread basket" of Imperial Rome, was scheduled by the Italian Government again to serve the homeland in that capacity, producing such Italian needs as grains and olive oil, plus oranges, dates, grapes, and almonds.

In the desert reaches of the colony (illustration, next page), irrigation projects have been set up. Old harbors have been rebuilt and new ones established. Fisheries have been promoted, and stock raising encouraged.

Modern motor roads have been built, notably the lengthy shore route which stretches from Tunisia across Libia to Egypt, the east end of which brought British forces into Libian strongholds (illustration, inside cover) at the first of the year.

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Photograph from European Picture Service

LIBIA SAW ROME'S POWER COME—AND GO—TWICE

The old Roman greeting, "Hail and farewell," could have accompanied the salute accorded by these Libians to Mussolini on his last visit to Bardia (from which British forces expelled the Italians at the first of the year). Lettering on the sign acclaims Il Duce as "Il Fondatore dell' Impero"—Founder of the Empire; Arabic script beneath gives him further praise. The first Roman Empire also included Libia, until the coming of the Vandals. Italian colonists found Libians a racial mixture of Berbers and Arabs, Berbers predominating. Their Arab dress, even covering thoroughly European business suits and accompanied by canes, indicates the Moslem customs of this Italian colony (Bulletin No. 1).

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"Invasion Ports" of France Feel British Blows

AN invading army of 250,000 embarked in mid-August from the French port of Dives-sur-Mer, after waiting a month for favorable weather, and conquered England. But that was in 1066. With hostile forces again drawn up on the French shores of the English Channel, Britain's air forces are fighting off possible invasion by striking at the ports from which invaders would embark. Their routine attacks, therefore, on France have almost equaled in number their raids over the more remote cities of Germany.

The rectangular territory of "Occupied France" held by German troops, comprising roughly the northwestern half of the country, has 21 of the 24 leading ports of the entire French nation. British raiders' attention has been divided between the dozen important northern ports along the English Channel shores, where concentrations of troops and supplies would precede any invasion of England, and the nine less strategic western ports along the Atlantic coast of France, potential bases for German operations against British shipping in the Atlantic.

Boulogne Was Napoleon's Non-Invasion Port

Dives-sur-Mer, focus of the 1066 bustle that stirred the whole Norman coast of France with William the Conqueror's expedition against England, is no longer a menace; the river silt of nine centuries has pushed it more than a mile inland. The potential "invasion ports" now threatening Britain are precisely those coastal cities which in peacetime had been the friendliest—those with the closest transportation ties: the Channel ferry ports of Boulogne, Calais, and Dunkerque in the east, Le Havre and Rouen nearer the center of the Channel's length. Scattered along toward France's western tip, the great transatlantic haven of Cherbourg and the naval base at Brest are listed among the menaces, as well as the smaller ports of St. Brieuc, St. Malo, Fécamp, Dieppe, and others which have formerly been fishermen's harbors and summer resorts.

Cross-channel warfare is nothing new to these ports. Boulogne, for instance, has traditions of a visit by Caesar on his way to invade Britain, and there the army and fleet of Napoleon concentrated in 1804, threatening an invasion which did not mature. Le Havre, on the other hand (illustration, next page), was snatched from French control by the British in Queen Elizabeth's reign.

French Port Improvements Paid For by Germany

France's Atlantic coast is dotted with smaller shipping centers, from Bayonne near the Spanish border in the south, La Rochelle and St. Nazaire in the center, to Lorient in the north. This last, now a prosaic harbor usually busy with coal from England or with fishing, sprang up in 1666 as home port for France's East India Company, and owes its name directly to the Orient.

Bordeaux, the only one of the country's five greatest ports which is situated on the Atlantic side, is actually a river port 60 miles inland on the Garonne, with five smaller ports downstream contributing to the shipping activities—Bassens, Bec d'Ambes, Blaye, Pauillac, and Le Verdon. Nantes likewise, 35 miles up the Loire River, is an inland seaport, served to a great extent by St. Nazaire at the Loire's mouth. St. Nazaire's shipyards launched the *Normandie*.

Ironically enough, many of the modern facilities which enable these ports to handle extensive international traffic were paid for by Germany. German repara-

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In peacetime, there is frequent air service linking the coastal cities. Tripoli, Bengasi, and Tobruch were fortified as important air and naval bases.

Such colonization and military activities, however, are expensive. Many of the ventures require time before returns may be expected, as for example, the building up of a livestock industry and the maturing of olive trees and other orchards. In the beginning, when the colony was first won from Turkey after the Italo-Turkish War of 1911-12, the Italians spent an estimated billion dollars on the conquest and pacification of hostile natives. Since then, millions have been expended for transporting the colonists and equipping their farms with home and barn, tools, machinery, seeds, and livestock.

Libia itself has few natural resources with which to repay the huge costs of its exploitation. Morever, although its Mediterranean border regions are exceptionally fertile, and crops grow well in the natural oases and irrigated areas, the vast central and southern reaches of the colony form a desolate wasteland of sand and rock, infrequently broken by settled patches of green.

Note: Further material on Libia appears in "Old-New Battle Grounds of Egypt and Libia," *National Geographic Magazine*, December, 1940; "Cirenaica, Eastern Wing of Italian Libia," June, 1930; and "Crossing the Untraversed Libian Desert," September, 1924. Libia may be located on The Society's Map of Africa, available at 50c (paper) and 75c (linen).

Bulletin No. 1, January 27, 1941.

Photograph by Harriet Chalmers Adams

BURRO AND BERBER WERE HISTORY'S FIRST LIBIANS

Before Europeans invaded Libia, it was the home of Berbers, non-negroid Africans whose "white" blood is more apparent in the blond members of their race. Their early beast of burden, the burro, has not been entirely supplanted by that new-fangled animal, the camel, later introduced into Africa from Arabia. Libia's natives, living in scattered oases of palm-fringed water holes (right background), long resisted Italy; although taken from Turkey in 1911, the colony was not declared "pacified" until 1932.

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Peacetime Engineering Projects Forged Ahead in 1940

WHILE bombs blasted structures of earlier years, engineering activities continued in 1940 throughout the world despite the destruction of war. In Europe, Asia, and North Africa work has been centered around military projects. The Western Hemisphere and Australia, and in lesser degree the war-torn continents themselves, have meanwhile made contributions to peacetime construction.

Outstanding among new highways in geographic significance is the 450-mile road just completed between the railhead at Alice Springs, near the geographic center of Australia, and Birdum, also a railhead, 316 miles south of Darwin. The road link completes a rail-highway-rail combination that provides modern transportation for the first time completely across the Australian continent from south to north, tying temperate Adelaide on the south to tropical Darwin on the north.

No Speed Limit on "Superhighway" in U. S.

Most important highway project to reach completion in the United States during the year is the 160-mile, $70,000,000 "superhighway" crossing the western two-thirds of Pennsylvania from the vicinity of Harrisburg almost to Pittsburgh. This 4-lane express highway has no grade greater than three per cent, and is without stops, traffic lights, grade crossings, intersections, and speed limit. The highway is the first to go through, rather than over, the Allegheny Mountains, obstacle to transportation since colonial days; it penetrates the range by seven tunnels.

Canada's first superhighway, the Queen Elizabeth Way, furnishes quick transportation between Fort Erie (across from Buffalo) and Toronto, for 91 miles around the western end of Lake Ontario. It was opened in August.

Road Links Canada's Largest National Parks

Nearly 2,000 miles farther west in Canada, the Big Bend Highway, following the northern bend of the Columbia River between Golden and Revelstoke, was opened in June after five years of work. It traverses for 200 miles a scenic region dominated by peaks more than 10,000 feet high in the Selkirk Range of the Rockies. Near by, the Banff-Jasper Highway was put into use in July, linking Canada's two chief national parks, cutting mileage between them from 511 to 186.

In South America, a 205-mile road from Posadas, near the northeastern corner of Argentina, to Iguassú Falls, completed in June, makes that world-famous cataract accessible by highway from Buenos Aires.

Among the 1940 crop of bridges in the United States eight were outstanding. The Thomas Alva Edison Memorial Bridge was opened across the Raritan River at Perth Amboy, New Jersey, facilitating travel to New Jersey shore points. A mile-and-a-half long, four-lane bridge was built across the Susquehanna at Havre de Grace, Maryland. The Jamestown Bridge was opened across the west passage of Narragansett Bay, tying Conanicut Island to the Rhode Island mainland west of Newport. The Morgantown Bridge, more than two miles long, was completed across the Potomac about 75 miles down the river from Washington, D. C. The latter bridge is of potential importance since it furnishes the only opportunity to cross the Potomac estuary by bridge downstream from the Capital.

In the far west one of the most unusual bridges ever constructed was put into use near Seattle across Lake Washington. More than a mile long, the bridge is supported by 25 huge floating pontoons of concrete. The growing family of bridges across the Mississippi River was increased by three during 1940: at Greenville and at Natchez, Mississippi; and at Baton Rouge, Louisiana.

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tions from the first World War supplied, for example, floating cranes to Dunkerque, a dredger to Nantes, floating docks to Bordeaux and Le Havre.

Special French efforts in recent years to handle imports of oil have supplied strategic ports with pipelines, storage tanks, and even with refineries, the latter in such convenient spots as Dunkerque, Rouen, and Le Havre.

The preponderance of ports on the Channel coast reflects France's close communications with Great Britain, her best foreign customer and second-best source of supply outside the colonies. The bulge of eastern French coast where Dunkerque, Calais, and Boulogne are clustered is little more than 20 miles from England. The volume of traffic in normal times pouring across to Boulogne places that port second only to Marseille in the number of passengers arriving and departing, although its rank is not so high on a basis of total shipping.

The river ports of Caen and Rouen (the outport for Paris) are also important terminals for Channel traffic.

The two leading French terminals for transatlantic shipping, Le Havre and Cherbourg, are possibly the best-known ports to Americans, since one or the other has been the usual threshold to France for visitors from the United States.

Note: Photographs and additional information about some of the French invasion ports will be found in "By Sail Across Europe," *National Geographic Magazine*, May, 1937; "Normandy—Choice of the Vikings," May, 1936; "Our National War Memorials in Europe," January, 1934; and "St. Malo, Ancient City of Corsairs," August, 1929.

Bulletin No. 2, January 27, 1941.

© *Morcau, E. P. A.*

FRANCE'S SECOND SEAPORT IN PEACETIME, LE HAVRE HARBORS SEA GIANTS

Surpassed in French shipping only by Marseille, Le Havre is home port to the *Normandie*, whose 80,000-ton bulk dwarfs the appearance of the 11,000-ton ocean liner (left) used on the Caribbean run. The largest French vessel afloat, now a refugee in the United States, the *Normandie* was photographed leaving the new docks (still dark with crowds of people), being moved about by three tugs in the narrow turning basin to head out into the English Channel. At the mouth of the Seine, which is the chief shipping route to Paris, Le Havre formerly received almost all of the transatlantic shipping which does not dock at Cherbourg, and much English Channel traffic in addition.

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Fortified Canary Islands: A "Loaded Gun" over East Atlantic

A MILITARY base at the Canary Islands' port of Las Palmas—recently provided for by official action of the Spanish Government—would occupy an extremely strategic position on sea and air routes of the east Atlantic.

In about the same latitude as Orlando, Florida, some 3,700 miles to the west, the Canaries lie off the northwest shoulder of Africa. The group includes seven major islands and five or six rocky islets, athwart vital trade lanes leading to Europe from Latin America, and from the Far East around the southern tip of the African continent.

Overlooks Africa's "International Row"

The nearest territory on Africa's mainland is also Spanish-controlled, the big coastal colony of Rio de Oro, surrounded on three sides by colonial possessions of France. The entire western bulge of Africa, both north and south of the islands, is a sort of "International Row" of colonies, including those of Great Britain, France, Portugal, and Spain.

The Canary Islands lie about halfway between British Gibraltar and Dakar, France's vital West African port which is also the Old World's closest city to South America.

Skirting these coasts normally are some of the world's most important travel routes, including those rounding the Cape of Good Hope at Africa's southern tip. They have now become doubly strategic, with the shutting off of trade lanes through the Mediterranean, as the chief shipping links between Europe and supply bases in the Orient. One of these runs through the Canaries on the way to Gibraltar and the Mediterranean. Another leads west of the islands, eventually to reach the British Isles.

In peacetime, German, Italian, and French commercial services used the Canaries as a station for South America-bound planes. Since the war stopped regular services, the Canaries have acquired a new importance as a possible base for patrolling near-by routes. An Italian line has been operating irregular and unscheduled flights from Rome to Spain, thence east of the Canary Islands to the colony of Rio de Oro, and thence across the South Atlantic to South America. According to recent reports, the Pan American Airways system is planning a new transatlantic route in this part of the world, by which westbound traffic would fly from Lisbon, Portugal, to Bolama, in Portuguese Guinea, south of the Canaries, and there would begin the transatlantic hop.

A Botanist's Paradise

The Canary Islands, in a scattered formation of varied shapes and sizes, cover a total land area of more than 2,800 square miles. They hold well over half a million people.

For purposes of administration the islands rank as part of Spain proper. They are divided into the two provinces of Tenerife and Las Palmas—whose respective capitals are Santa Cruz de Tenerife and Las Palmas, the latter the proposed site of the new base.

In the Tenerife group are counted the western islands of Tenerife, Gomera, La Palma, and Hierro. In Las Palmas' eastern section are included Gran Canaria (where Las Palmas city is located), Lanzarote, Puerteventura, and additional islets.

While the average visitor seldom sees more of the Canaries than Tenerife,

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Opened in July, the ill-fated Narrows Suspension Bridge ("Galloping Gertie") at Tacoma, Washington, across an arm of Puget Sound, collapsed on November 7.

At Brisbane, Australia, the continent's second largest bridge was opened across the Brisbane River.

Most of the year's railroad construction was in the Old World. An important exception is the 158-mile line in northwestern Mexico extending from Mexicali, across the border from Calexico, California, southward along the coast of the Gulf of California to Punto Peñasco in the State of Sonora. The line is the first direct connection between California railways and a Lower California Gulf port.

In Greece a new railway line connecting Thessaloníke (Salonika) with an existing railroad running north through the Struma River Valley to Sofiya, Bulgaria, was opened in May. The road has strategic value in the defense of Greece.

In the region of Italy's Turin factory center, a 40-mile railroad was opened in July, connecting Novara with Biella.

In Iran (Persia) on March 8 a 90-mile section of the Tehran-Tabriz railway opened between Tehran and Kazvin. It covers the route of the "old silk road," used for overland transport before the Suez Canal speeded shipping between the Indian Ocean and the Mediterranean.

The U.S.S.R. has completed 500 miles of east-west railway in the Kazak Republic connecting Kartaly with Akmolinsk, northeast of the Aral Sea (Aralskoe More), primarily to haul coal from the Karaganda Basin. Coal shipments also will move by the 47-mile line completed early in 1940 between Liman and Kupyansk north of the Sea of Azov in European Russia.

A new railroad, running northwest from Petrozavodsk on Lake Onega in European Russia, crosses to the former Finnish town of Suojärvi. This road of 81 miles was pushed rapidly over swamps and around rocky hills at a rate of more than a mile a day.

Work on Traffic Jams in New York and Washington

Farther north, Kandalaksha on Russia's Murmansk railroad has been connected by rail with Kuolajärvi, 100 miles to the west near the Finnish border. This line is being continued to Kemijärvi in Finland, where it will connect with a Finnish railway. Then Kandalaksha and the Murmansk lines will be about 275 miles by rail from the head of the Gulf of Bothnia, northern arm of the Baltic Sea.

Norway's Nordland Railway has been pushed 122 miles farther north, paralleling the coast, to the small fiord port of Mosjöen, on the Norwegian Sea.

In the Far East, several railroad extensions were made in Manchuria, totaling about 140 miles. In southern China, 40 miles have been completed on the Kwangsi-Kweichow section of the Honan-Kwangsi line, out of Liuchow.

The huge Canning Dam in western Australia was completed in September, across the Canning River gorge, 27 miles from Perth. It is 218 feet high, has a crest length of 1,534 feet, and a capacity of 20½ billion gallons of water.

At San Fernando, near Los Angeles, California, the Hansen Dam, one of the largest earthen structures yet built, was put into use in August. It will control the flood waters of the Los Angeles River. The Fresno Dam, for water storage on the Milk River irrigation project in Montana, was completed in April. Built by the Federal Government, it can store more than 40 billion gallons of water.

New York City's major engineering works during the year advanced in the field of transportation. In mid-November the Queens-Midtown Tunnel under the East River was completed; it extends from Manhattan Plaza (between 36th and 37th Streets, 1st and 3rd Avenues) to Borden Avenue, Queens. On December 15 the new Sixth Avenue Subway, extending from West 4th Street to 50th Street in Manhattan, was opened to use. The 34-mile Belt Parkway on Long Island, skirting Brooklyn and Queens from Owl's Head Park to Whitestone Bridge, was virtually completed.

In Washington, the first step toward solving the capital city's peculiar traffic problems—caused by circular parks in the line of avenues—was taken with the construction of the Massachusetts Avenue-Thomas Circle underpass.

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Bulgaria's Trade Long Dominated by Germany

IN VIEW of large German troop concentrations in Romania, historians recalling the traditional German "drive toward the east" have pointed out that the next country in the path of such a drive is Bulgaria.

This Balkan nation was allied with Germany and the other Central Powers in the first World War, and as a result of their defeat suffered considerable territorial losses. Since then, Germany has been Bulgaria's chief customer.

Another element of pro-Axis pressure within Bulgaria is that King Boris is married to Princess Giovanna, daughter of Victor Emmanuel III, king of Italy.

Exports Only Farm Products

Before the World War of 1914-18, Bulgaria was the leading country of the Balkans. Land losses following peace treaties in 1919 cost the defeated country strips of territory which were awarded to Yugoslavia, Greece, and Turkey, leaving a diminished Bulgaria of only 39,825 square miles. Thousands of refugees from the ceded regions created problems in the remainder of the country, which was further hampered by the loss of its only access to the Mediterranean with that block of Aegean coastal region which was transferred to Greece. With the exception of Albania, Bulgaria became the smallest of the Balkans. Recovery in September, 1940, of the Dobruja region, captured by Romania in the 1913 Balkan War, restored 2,880 square miles to Bulgaria's area.

Despite its generally mountainous character, Bulgaria is one of the predominantly agricultural countries of Europe. It also is among the least industrialized.

More than four-fifths of the people are "dirt farmers," most of whom own their small farms (illustration, next page). Not more than 200,000 are farm laborers, working for others. Most farms average but 1 to 6 acres, with crops designed primarily to supply the needs of the farmer's family.

Germany normally purchases 40 per cent of Bulgaria's exports. More than half of the Balkan country's imports have come from Germany.

The small farm surplus enters into the country's export trade. The cereals, tobacco, eggs and chickens, silk, and attar of roses sent out of Bulgaria aggregate about $50,000,000. This sum more than pays for the iron, cotton, machinery, and motor cars imported, largely from the foundries and factories of Germany.

Government Controls Trade

The thousand and more industrial establishments are small and concentrate on consumer goods for the home market—sugar, cotton cloth, silks, flour, baby carriages, bicycles, paper, cigarettes, shoes and galoshes, and automobile tires.

Export and import trade is subject to control by the government. National authorities also may prohibit additional factories in an industry already "saturated"; this condition now prevails in about a tenth of all industries. Farm prices are maintained by government purchases. The export of wheat is a government monoply.

Sofiya, the capital, is a cosmopolitan city at a crossroads between East and West. It was an ancient Thracian camp before the Christian era. Now it is a modern city of 250,000; Bulgarian guide books comment with pride that Sofiya has "some of the largest cinemas." Mosques and other architectural touches testify to earlier Turkish domination.

Gabrovo is the Manchester of Bulgaria. Behind the woolen mills of this

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Gomera, and Gran Canaria, the other islands are also of interest, particularly to students of geology, archeology, zoology, or botany. The western islands, where hundreds of species of rare plants grow luxuriantly (illustration, cover), have been called a botanist's paradise. Magnificent scenery is found everywhere in these volcanic islands, where the latest eruption occurred in 1909.

The Canaries have an ancient history. Visited by the Phoenicians before recorded history, they were called the "Fortunate Islands" by the Romans, who believed them to be the mythical Greek "Isles of the Blest." For the past four and a half centuries the islands have been in Spain's possession.

Canaria in Spanish now is translated as the canary bird, a native of the region. The name of the islands, however, was not given because of the birds; the reverse is true. Originally the Canaries were so named from the Latin word *canis*, dog. This was due to the one-time presence on the islands of a breed of huge dogs.

The modern islanders, a mixture of races including Spanish, Norman, Flemish, and Irish blood, take their living chiefly from the sea and from the soil. Among the leading exports are fruits and vegetables, almonds, and wine. From Canary grapes during the 17th century came the famous "Canary sack," especially prized by English importers. The Canary Islands buy considerable crude oil and coal, used in the main ports for the refueling of the many ships that pass this way.

A military outpost of Spain, the Canaries have long had a garrison. Although details are not now available as to its strength, one record of some years ago indicated that 25,000 men were on duty.

Note: See also "The Greatest Voyage in the Annals of the Sea" (Magellan), *National Geographic Magazine*, December, 1932; "A Modern Saga of the Seas," December, 1931; "Hunting for Plants in the Canary Islands," May, 1930; "The Pathfinder of the East" (Vasco da Gama), November, 1927; and "The Dream Ship," January, 1921.

Bulletin No. 4, January 27, 1941.

Photograph by Wilhelm Tobien

THE CANARIES FARMER USES AN "AFRICAN TRACTOR"—A CAMEL

By careful planting and irrigation, by building windbreak walls of lava blocks (background), farmers on the volcanic Canary Islands can raise profitable crops of dwarf Chinese bananas, wheat, dwarf corn with plants not two feet high bearing a single ear, cabbage, and other vegetables. Camels, saddled with special racks for carrying casks or cans of water, are used on all the islands. One is shown kneeling to be loaded (right background).

textile center are millions of sheep in the pastures of the country—almost two sheep or goats for each Bulgarian.

South of Gabrovo, over the now snow-covered Shipka pass through the Balkan Mountains, is the vale of Kazanlik, "Rose Valley," a plain between the wooded Balkans and the Middle Mountains. There the damask rose is widely cultivated, not for the florist trade, but to be sold by the pound for production of attar of roses, one of the world's highest-priced perfumes. Bulgaria has produced three-fourths of the world supply of rose oil, an ounce of which requires 200 pounds of petals.

Similarly, mulberry trees are grown, not for the berries, but to afford food for that mulberry "pest," the silkworm. The worms hatched from an ounce of eggs consume a ton of mulberry leaves before spinning their cocoons. Nearly a third of Bulgaria's silk export is in the form of cocoons.

The Danube River, which forms most of Bulgaria's northern border against Romania, is the great commercial channel for Bulgarian wheat, tobacco, and other products going into Germany. Ruse (Ruschuk) is the principal Bulgarian river port; its shipping facilities have resulted in increased manufacturing there. It has a population of 50,000, although it was once the largest city in Bulgaria.

The tonnage of ships entering the Danube River ports greatly exceeds that at all Bulgaria's Black Sea ports. Burgas is now the principal seaport, having surpassed Varna after cession of the Dobruja region to Romania. Since this land has been receded to Bulgaria, Varna may recover much of its lost trade.

Note: Additional information and photographs of Bulgaria are found in "Bulgaria, Farm Land Without a Farmhouse," *National Geographic Magazine*, August, 1932. See also "Along the Old Silk Routes," October, 1940; "The Battle-Line of Languages in Western Europe," February, 1923; and "The Whirlpool of the Balkans," February, 1921. And in the GEOGRAPHIC NEWS BULLETINS: "Why Are the Balkans the 'Powder Keg of Europe'?" November 4, 1940; "Bulgaria, Land of Attar of Roses," March 11, 1935.

Bulletin No. 5, January 27, 1941.

Photograph by Maynard Owen Williams

SHE USES HER HANDS FOR ONE JOB AND FEET FOR ANOTHER

On the highland farms covering most of Bulgaria, wool and wheat are the chief crops; their production is combined wherever possible. While leading the oxen in the direction in which furrows should go in the wheat field, the smiling woman twirls her distaff and spindle, twining wool into thread which she will later weave into cloth on her loom. The small size of Bulgarian farms retards the use of machinery which might increase the land's yield; more than three-fourths of the farms are smaller than three acres, frequently subdivided into separated strips by division of a father's estate among his children. The farmer uses a primitive wooden plow, because it is cheap, lightweight, and easily carried from field to field.